

City of Tacoma NPDES 1999 Annual Report

Submitted April 7, 2000

This annual report is for the reporting period January through December 1999.

I. Status of implementing the components of the stormwater management program.

The City of Tacoma (City) received approval of its Stormwater Management Program (SWMP) from the Washington State Department of Ecology (Ecology) in July 1999. City staff presented information about the program to the City Council on April 20, 1999. Ecology staff sent out public notices and held a public workshop and hearing in the Tacoma City Council Chambers on April 29, 1999 as part of the public process. Comments that were received from the public during the hearing or in writing were incorporated into the SWMP before it was finalized.

This report describes the implementation of the Stormwater Management Program during 1999 and projects some of the program components into the future as per the schedule that was outlined in the SWMP.

The following reports, documents and activities were completed in 1999 as per the SWMP schedule:

- The Comprehensive Stormwater Management Program was approved by Ecology.
- The Snake Lake monitoring quality assurance/quality control (QA/QC) plan was submitted to Ecology.
- The physical inventory of gulch and associated stream systems was completed.
- The equivalency document for the City's Stormwater Management Manual, Volume I - Design was submitted to Ecology.
- The City's Stormwater Management Manual, Volume II - Stormwater Pollution Prevention Manual: A Guide to Best Management Practices for Industries, Businesses and Homeowners, was resubmitted to Ecology and was approved.
- Modifications were made to the existing drainage ordinance in 1999 and it was submitted to Ecology in January 2000.
- The Sampling and Analysis Plan for the Thea Foss Waterway monitoring program was submitted to Ecology.
- The Thea Foss and Wheeler-Osgood Waterways Source Control Report was submitted to Ecology in 1999 and the final addendum was submitted in February 2000.
- The Stormwater Source Control Feasibility Study was submitted to Ecology.
- The 1998 Annual Report was submitted to Ecology.
- The Fourth Year report was submitted to Ecology.

S7B1 Stormwater Management Program Planning Process

Stormwater Utility staff worked with managers and staff from the Sewer Operations and Maintenance, Streets and Grounds, and Building and Land Use Services Divisions of the Public Works Department to compile the information needed for this report. Participation by elected officials and the public took place in 1995, 1996 and in 1999. A City Council study session on the SWMP was held in April 1999. The City Council was also updated several times during 1999 on the Endangered Species Act (ESA) activities that City staff were involved in.

S7B2 Water Quality Problems, Needs and Priorities

Analysis of needs and priorities

The City's analysis of needs and priorities was included in the SWMP that Ecology approved. The SWMP includes a prioritized list of all of the City's unmet stormwater needs. The bulleted items on the first page of this report highlight many of the unmet needs that were addressed in 1999.

S7B3 Legal Authority

Adoption and enforcement of ordinance containing standards equivalent to the minimum requirements of Ecology's Stormwater Management Manual

The City's drainage ordinance, Chapter 12.08 of the City Code, is currently in effect. It was revised in December 1999 in order to be equivalent with the minimum requirements of Ecology's Stormwater Management Manual. The revisions were presented to the City Council for comment and were submitted to Ecology in January 2000. The revised ordinance will be finalized in early 2000.

Adoption and enforcement of ordinance prohibiting pollution discharges to the City's municipal stormwater system

The City's existing ordinance currently prohibits the discharge of pollutants to the City's stormwater system.

S7B4 Monitoring

Please refer to Section S12 Thea Foss Waterway Basin Program for information on monitoring activities in the Foss Basin.

The Snake Lake Sampling and Analysis Plan (SAP) was initially submitted to Ecology in July 1999 in accordance with the City of Tacoma's NPDES permit. Since this submittal, the City has revised and resubmitted the SAP after meetings with Ecology staff. Preliminary research and sampling was also completed. The SAP will be finalized and implemented in the year 2000.

The City of Tacoma wanted to adequately assess the condition of and the impacts to its gulches and the streams within them. The City will use this information to support the future development of water quality priorities and programs for the City, as well as to influence decisions concerning the Endangered Species Act. Four areas were assessed: the Western Slopes, North Tacoma, the Lower Puyallup and Northeast Tacoma (refer to Figure 1 in Appendix A, Urban Creek Assessment Quality Assurance Project Report). Physical habitat assessments were conducted to identify habitat degradation, the causes of the degradation, and restoration potential. The goals of this assessment were to:

- Identify and map all the creeks/gulches within Tacoma's city limits.
- To identify each creek's unique characteristics, such as: bank and bed problems (e.g., existing erosion), poor or exotic vegetative cover, extreme litter, presence of odors, illicit discharges, and improper uses of creek waters.

A report summarizing the gulch and stream assessment program has been completed and is included as Appendix A.

A local bay-watch telephone hotline allows the public to report water pollution problems. The Bay-watch hotline (253-502-2190) was instituted in late 1998 and was operational throughout 1999. The City produced numerous advertisements to promote the hotline number and to raise public awareness of efforts to protect Commencement Bay from environmental threats. Specifically:

- A City staff person was interviewed for the cable TV program "City Scope" on January 21, 1999. The staff person talked about the shoreline patrols and presented the hotline as a phone number the public could call to report environmental threats to the health of the bay.
- The City produced a color poster to promote bay-friendly alternatives in everyday activities and to advertise the hotline phone number. Over 80 posters were distributed to 39 separate establishments.
- The City produced and distributed public service announcements for local TV stations advertising the hotline.
- The City also ran a quarter page ad in the News Tribune on November 10, 1999, prominently displaying the hotline number.

Despite this extensive public awareness campaign, the hotline has received limited use by the public to date.

City staff monitor the shorelines of the entire Commencement Bay area by a City-owned boat. This is done on a monthly basis. The monitoring is done at low tide to the extent practicable. Identified problems are addressed. Several water quality improvements resulting from this program are described later in this report (see Section 7, Identification of known water quality improvements or degradation).

The bay patrols were performed on the following dates: January 6, March 26, April 22, May 7, June 9, June 29, July 21, August 11, September 14, October 29, November 10, and December 15. Two patrols were performed in June to make up for February, when no patrol was performed due to extensive boat repairs required after an accident unrelated to these patrols. Areas of the shoreline were video taped during patrols, establishing a record of existing conditions. If incidents were detected during a patrol, an incident report form was filled out that documented the incident and the follow up action or referral.

The benefit of these patrols comes not only from correcting the specific problem, but they also raise the awareness of businesses and the general public about proper operations on and around the water. Copies of the video tapes and the incident report forms are available.

The environmental group, Citizens for a Healthy Bay, is sponsoring a Bay Keeper program. The person hired as the Bay Keeper has a boat and also patrols the City's many miles of shoreline. The City committed \$10,000 to their program and coordinates its efforts with those of this environmental group.

Stream Team volunteers do limited stream monitoring in several streams. They monitor for pH, temperature and other parameters.

Monitoring of surface/stormwater running off the cliffs above Marine View Drive began in mid 1999. The monitoring is taking place in the vicinity of the Natural Resource Damages Assessment (NRDA) trustee proposed restoration sites. The purpose of the monitoring is to determine if the water is of acceptable quality to be used in restoration projects. Monitoring is conducted twice per quarter at three locations and two full quarters of data had been collected by the end of 1999. Parameters tested for are organic, inorganic and conventional parameters. Data will be analyzed upon completion of the four quarters of monitoring to determine if the water is of acceptable quality to meet the needs of the restoration projects. There are no conclusions or recommendations at this time while the data is being collected.

The I-Street gulch was walked in October 1999. Areas of erosion and bank downcutting were noted and photos were taken. Riparian vegetation and water quality were assessed in areas where water and vegetation were available.

Developers are required to monitor wetlands in areas where wetlands could be impacted by development. They are required to submit reports. Approximately one-half of the City's Wetlands Specialist's time is spent on wetland monitoring activities. These activities include review of monitoring reports submitted as part of the permit approval process, tracking violations and monitoring shorelines.

There is an official weather station at the Central Wastewater Treatment Plant and 4 rain gauges located throughout the City. The rain gauge information is recorded and used as needed. The City contracts with a weather service and receives weather reports twice a day. This information provides an early warning of heavy rains and potential flooding. Maintenance crews are dispatched to proactively check and maintain trouble spots prior to anticipated heavy rains to ensure the proper operation of the system.

Storm sewer monitoring in commercial/industrial areas

Please refer to Section S12 Thea Foss Waterway Basin Program for additional information about monitoring in commercial and industrial areas.

S7B5 Fiscal Analysis

The operation and maintenance of the Storm Drainage Utility is funded from service charges. No revenue is derived from taxes from the City's general fund. Major capital improvements are funded from revenue bonds and pay-as-you-go financing. The service charges are reviewed annually to insure that they are adequate to pay operation and maintenance costs, debt service, capital improvements and taxes. All changes to the rates must be approved by the City Council.

STORM SEWER UTILITY

During the reporting period of January 1, 1999 through December 31, 1999, the stormwater utility spent \$14.6 million. The expenditure categories are as follows:

OPERATIONS:

Transmission

Personal Services	\$633,975.11
Supplies & Other Services and Charges	\$444,353.05
Miscellaneous Capital Outlay	<u>\$684,435.67</u>
Total	<u>\$1,762,763.83</u>

Pumping

Personal Services	\$29,907.08
Supplies & Other Services and Charges	\$215,918.57
Miscellaneous Capital Outlay	<u>\$6,652.52</u>
Total	<u>\$252,478.17</u>

Holding Basins

Personal Services	\$26,024.15
Supplies & Other Services and Charges	\$15,880.91
Miscellaneous Capital Outlay	<u>\$9,978.75</u>
Total	<u>\$51,883.81</u>

Engineering

Personal Services	\$297,127.36
Supplies & Other Services and Charges	\$144,864.89
Miscellaneous Capital Outlay	<u>\$0</u>
Total	<u>\$441,992.25</u>

Source Control

Personal Services	\$556,474.78
Supplies & Other Services and Charges	\$659,928.11
Miscellaneous Capital Outlay	<u>\$10,865.44</u>
Total	<u>\$1,227,268.33</u>

Laboratory

Personal Services	\$270,854.71
Supplies & Other Services and Charges	\$52,387.75
Miscellaneous Capital Outlay	<u>\$323,242.46</u>
Total	\$1,227,268.33

MISCELLANEOUS:**General Services**

Personal Services	\$382,344.42
Supplies & Other Services and Charges	\$2,622,122.95
Miscellaneous Capital Outlay	\$15,255.24
Depreciation	=
Total	\$3,019,722.61

Debt Service

Principal and Interest	\$2,441,744.61
Other	<u>\$49,631.00</u>
Total	\$2,491,375.61

Other Department Divisions not included above:**Miscellaneous**

unknown at this time

Capital Projects

T-Street Gulch	\$100,193.03
Coal Gasification Cleanup	\$76,047.37
Hosmer Basin	\$21,576.33
Foss Waterway Cleanup	\$1,709,007.56
NE Tacoma System	\$31,289.00
NRDA	\$494,000.29
Misc. Superfund	\$1,248,400.28
Miscellaneous	<u>\$1,014,098.03</u>
Total	\$4,694,611.89

Grand Total

\$14,588,581.42

A description of the types of activities associated with the above expenditures is contained in Volume 3 of Tacoma's Stormwater Management Manual. Relating the budget amount in each of the above categories to the actual expenditures is very difficult at this time. Some activities are budgeted in one activity or organization but are actually spent and therefore charged to a different activity or organization. As a result, the actual expenditure in any one line item does not necessarily

relate to the budget number for that same category. Some capital expenditures may be budgeted in the operating budget but the expenditure is taken from the capital budget and vice versa.

The expected revenue from rates in 2000 is \$13.8 million. The anticipated expenditures for the year 2000 will likely be greater than in 1999. This is due to increasing activities in the Stormwater Utility. There will be increased emphasis on source control, public education, and on revising the stormwater manual as required by the Department of Ecology. In addition, there are numerous planning, design and construction activities funded by the Utility. Some of these are to comply with federal and/or state orders, consent decrees, mandates, etc. Finally, there will be added demands on staff and Utility resources as the impact of the listing of salmon under the Endangered Species Act is felt.

S7B6 Data Management

Development of land cover information maps and data

A GIS mapping system has been in use for the past several years. A source control database for industrial and commercial sites has been developed. It tracks business inspections and compliance status.

Mapping of wetlands was undertaken by the Buildings and Land Use Services Division in 1999. Unpaid college interns worked for more than 400 hours mapping the City's wetlands. The wetlands were categorized as filled wetlands, known wetlands and high probability of a wetland. No formal information was available on the last category. Eventually, this information will be available on the City's GIS system.

Description and location of major structural BMPs and other structural controls

The City developed a map that shows the location and type of all public and private water quality and water quantity facilities.

Mapping storm sewer outfalls and tributary conveyances

This type of mapping has been available for many years.

Water quality complaint investigations and database development and maintenance

A customer request database has been developed for residential requests. A separate business database is currently in use.

S7B7 Intergovernmental Coordination

The City has been involved in the Tri-County Endangered Species Act (ESA) efforts. This effort has involved the municipalities of Pierce, King and Snohomish Counties as well as many of the larger cities. Representatives from the Tribes, environmental groups, businesses and land developers are also included. City staff have served on many of the Tri-County ESA work groups including stormwater. The stormwater work group, representing the above mentioned groups, spent a lot of time in 1999 developing a draft proposal for a model stormwater management program that would protect fish. The goal of the work group is to have a program that is acceptable to the National Marine Fisheries agency. These efforts are continuing into 2000.

General coordination for monitoring, mapping, data management and modeling

The City coordinates a variety of activities with other municipalities and agencies. Issues related to the Flett drainage basin are coordinated with Pierce County, Lakewood and the Washington State Department of Transportation (WSDOT). Activities related to the ASARCO site are coordinated with the City of Ruston, Metro Parks Tacoma and the United States Environmental Protection Agency (EPA). Issues related to the clean up of the Foss Waterway are coordinated with WSDOT, EPA, the Army Corps of Engineers, the Washington State Department of Natural Resources, the Puyallup Tribe and Ecology. Activities related to the T-Street drainage basin are coordinated with Pierce County. Activities related to the Leach Creek drainage basin are coordinated with WSDOT and the cities of University Place and Fircrest. Activities in NE Tacoma, including the Joe's Creek drainage basin, are coordinated with Federal Way. Activities in the Hylebos Creek drainage basin are coordinated with the cities of Federal Way, Fife, Milton and Edgewood and with Pierce and King Counties.

General coordination for control of stormwater pollution from other jurisdictions

The City coordinates with other jurisdictions and agencies in a variety of ways. The City participates in the NPDES municipal permittees group, the Puyallup River Watershed Council, the Hylebos Watershed Action Team and the APWA Stormwater Managers' Meetings. Funds are provided to the Pierce County Conservation District to support the Stream Team which is sponsored by Tacoma, Pierce County and the cities of Puyallup, Fife and Sumner.

Development of coordinated SWMPs for waterbodies shared with other municipal permittees

The City coordinates with other municipalities to address stormwater concerns in shared waterbodies as described above.

S7B8a Runoff from new development and redevelopment**Development of an ordinance containing minimum technical requirements equivalent to Ecology's manual**

The City developed a draft Stormwater Management Manual, Volume I - Design which was submitted to Ecology in 1995 for comments. An Equivalency Document for this manual was submitted to Ecology for review in 1999.

Stormwater plans for all new development and redevelopment projects are being reviewed and then the projects are inspected in the field. Many aspects of the draft Stormwater Design Manual, including the detention release rates are being implemented in this process. Stormwater facilities designed by staff and by consultants are done in accordance with the Design Manual. Erosion and sediment control plans are reviewed for compliance with the City's Excavation and Grading Ordinance.

Staff provide consultations and educational meetings with developers, planners and engineers involved in the land development process.

The Building and Land Use Services Division of the Public Works Department distributes NPDES Construction Notice of Intent forms to all developers who have projects that will include 5 acres or more of land clearing activities. These projects require a separate NPDES permit from Ecology.

A grading and erosion quality control team has been identified and staff is currently working on ways to improve the plan review process relating to temporary and permanent erosion control plans. The team is developing ways to educate the public on the needs of implementing adequate erosion and sediment control measures. The team is also researching new technologies and encouraging contractors to try these new technologies. As the education of the public increases, the City will continue to increase its efforts in enforcing the requirements stipulated in the Design Manual. New inspection and enforcement techniques will be developed in 2000.

An Erosion and Sediment Control class was developed in 1999 and will be offered to all applicable City staff in March 2000. The class will be a full day and will feature outside speakers who are active participants in the International Erosion and Sediment Control Association. The Stormwater Utility is sponsoring the class and it will be offered to all engineers, inspectors, planners and other staff involved in land development activities that could cause erosion and sediment problems.

S7B8b Existing Residential and Commercial Development Runoff

The City's current program includes business inspections, drainage complaints, interagency coordination, stormwater education, a major source control effort in the Foss Waterway drainage basin and enhanced activities in the Snake Lake drainage basin.

S7B8c Municipal Storm Sewer Operation and Maintenance

The Public Works Department has a Sewer Maintenance Division that is responsible for maintaining both the storm drainage and the sanitary sewer systems. The following tables indicate the level of maintenance efforts that were completed during 1999.

**Municipal Storm Sewer Operation & Maintenance
January 1999 to December, 1999**

# CB's cleaned	5,322
# CB's checked	103
# Scuppers cleaned	127
# Culverts cleaned	301
Ditches cleaned	30,249 ft.
Detention Ponds cleaned (brushed)	31
Storm Main lines cleaned	27,454 ft.
Storm Main lines flushed	13,799 ft.
Storm Main lines backcut	7,550 ft.
Storm Manholes cleaned	150
Storm Manholes checked	608
# Feet In House Storm TV Inspection	20,831 ft.
# Feet Pay Storm TV Inspection	27,334 ft.

The Sewer Utility Maintenance Division is developing a comprehensive maintenance program that will extend the life of facilities and systems, and improve system reliability and performance. The program will be completed and implemented by the middle of year 2000. This program includes maintenance improvements and modifications, monitoring and evaluation of system performance,

and the development of specific performance standards for each maintenance activity. Some of the critical maintenance activities included in the maintenance program are, TV inspections, catch basin inspection and cleaning, ditch inspection and maintenance and the cleaning of scuppers and sumps.

Development of an ordinance defining private storm sewer system maintenance responsibilities was started in 1999. The draft ordinance has been submitted to Ecology for review and will be finalized in 2000.

Vactor waste is currently being decanted. The dry material is used at the landfill as daily cover. The liquid waste is being discharged to the sanitary sewer. Testing of both the dry and liquid components is continuing.

S7B8d City Road Operation and Maintenance

The Streets and Grounds Division of the Public Works Department is responsible for road operation and maintenance. This division sweeps the streets, does manual cleaning of stormwater features such as culverts and catch basin grates, has a fall leaf pick-up program, has a de-icing and snow removal program and responds to spills.

The City owns 4 street sweepers and 2 or 3 of them are in operation daily. During 1999, approximately 4,300 miles of street were swept and 4,500 cubic yards of material were collected.

S7B8e Water Quality Considerations in Flood Management Projects

The City did not construct any flood control projects in 1999.

S7B8f Runoff from Pesticide and Fertilizer Application

Educational efforts in this area were incorporated into the City's overall educational programs.

S7B8g Illicit Storm Sewer Discharge Elimination

The elimination of illegal discharges is one of the City's top stormwater priorities. The City currently has a ordinance that is used to enforce the elimination of illicit discharges. This ordinance was revised and submitted to Ecology for review in early 2000.

The City has two full time staff people devoted to the elimination of illicit discharges. When they do business inspections, they provide the business operators with technical assistance regarding the elimination of illicit discharges and they educate business operators about the proper BMPs to use. Volume II of the City's Stormwater Management Manual, "Stormwater Pollution Prevention Manual: A Guide to Best Management Practices for Industries, Businesses and Homeowners", is used in the industrial stormwater program for guidance in the storage and containment of chemicals.

The field staff observe or assist emergency response agencies with spill response activities. They provide the agencies with information on the City's stormwater system with the goal of keeping the spilled material out of the system. They continue to work with mobile washers and charity car wash operators to ensure that these types of washing activities are done correctly. They have also worked with the Tacoma Fire Department and with other City facilities in 1999, to ensure that vehicle wash water is disposed properly. The field staff also responds to general concerns regarding water quality problems.

The elimination of two illicit discharges to Puget Creek are described later in this report in Section 7, Identification of known water quality improvements or degradation.

The City has a fairly new household hazardous waste disposal and recycling center located at the landfill. This popular facility provides a place for the community to safely dispose of waste products that otherwise might end up in a storm drain.

S7B8h Industrial Stormwater Monitoring and Control

The City reviews all commercial plans for adequacy of the private storm sewer systems and their connection to the City's system. New construction is inspected to ensure compliance with City requirements.

The City's two stormwater Source Control staff inspect industrial sites. The industrial inspections are coordinated with Ecology staff as appropriate. This coordination includes the referral of problem sites to Ecology when the industry has an industrial NPDES permit.

The staff members have developed an inventory of sites and have the inventory on a computerized database.

S7B8i Stormwater Education

Employee education

The City encourages its stormwater staff to participate in continuing education. The staff has attended classes on BMPs, water quantity and water quality, erosion and sediment control and other topics directly related to stormwater. City staff also participates in the APWA Stormwater Managers' Meetings, the NPDES Municipal Permittees Work Group, the Puyallup River Watershed Council and the Hylebos Watershed Action Team. All of these provide opportunities for additional stormwater education.

Public education

The City has an extensive public educational program. The Stream Team, a multi-jurisdictional effort, sponsors storm drain stenciling. They also offer other programs such as wetland and stream bank cleanups and revegetation, workshops and tours. The Stream Team also has a water quality booth that is used at various community events including the Puyallup Fair and Maritime Fest. The Stream Team has a very large, active group of volunteers.

The Stream Team, the environmental group Citizens for a Healthy Bay, the Stormwater Utility and the Pizza and Pipes restaurant sponsored a storm drain stenciling day in Tacoma in July 1999. Staff from the Utility and Citizens for a Healthy Bay were interviewed on a twenty minute segment of the City Line cable TV show regarding the stenciling program. Many volunteers, including several families turned out to help and approximately 200 storm drains were stenciled.

The Stormwater Utility is continuing to work with Metro Parks to support a variety of educational efforts that will focus on stormwater and marine life. These activities will take place at the Point Defiance Zoo and Aquarium.

The charity car wash program also received radio and newspaper coverage in 1999. The Utility cosponsored with Sears, a day long, joint "Clean Bay Car Wash" as a fund raiser for the Gilda Club. This club raises funds for cancer victims and their families and was formed in memory of Gilda Radner. This large event was held at the Sears parking lot at the Tacoma Mall. Pollution prevention information was handed out and was discussed with the customers of the car wash.

The Stormwater Utility also distributed flyers and posters focused on things that the community could do to protect water quality such as car washing, auto maintenance, pet waste disposal and use of yard chemicals.

The Building and Land Use Services Division also developed six public service announcements for their "Built Right" program which is designed to educate the public about proper permitting procedures.

The Stormwater Utility, Sewer Utility, Solid Waste Utility and Tacoma Power and Tacoma Water are continuing an ongoing effort with the Tacoma School District to provide environmental education in the schools. The Utilities have paid the salary of a Curriculum Facilitator for Environmental Education for the past several years. The Facilitator has developed environmental materials for the schools. The Facilitator also coordinated environmental workshops for teachers in 1999. One workshop was on watersheds and water quality, one workshop was on sewage disposal and wetlands, and one was on recycling and solid waste.

The Stormwater, Solid Waste and Sewer Utilities, along with staff from the City's Community Relations Department, joined together in applying for a Public Involvement and Education Grant from the Puget Sound Water Quality Action Team in 1999. The \$42,000 grant was awarded and will provide funding for an "Environmobile". This will be a staffed, mobile educational unit that will go out to the schools to provide environmental education to the school children of Tacoma in grades K-6. This program is being developed and will start implementation in 2000.

The Stormwater Utility again helped to sponsor the Nature Bowl program offered at the Nature Center at Snake Lake by various agencies. This event provides an opportunity for educational interaction with both teachers and school kids with respect to water quality concerns.

Staff also participated in a variety of other educational activities such as meeting with high school students, assisting with the water quality booth at the Puyallup Fair, and doing water quality presentations.

S12 Thea Foss Waterway Basin Program

The City's NPDES municipal stormwater permit, issued in 1995, contained a special provision requiring the development of a stormwater program specific to the Foss Waterway. Much of the work to establish the program was done in 1995 and early 1996.

Source control activities conducted within the Thea Foss Waterway Basin over the past several years are documented in the Source Control Report, Thea Foss and Wheeler-Osgood Waterways Drainage Basins, referred to as Appendix Q (Round 3 Data Evaluation and Pre-Design Evaluation Report). In February 1999, the City published Chapter 3 of Appendix Q, which summarizes source control

activities conducted in Basin #237A. In June 1999, the City published an addendum to Chapter 1 of Appendix Q which summarizes a source control investigation conducted in Basin #245.

On September 30, 1999, the Final Round 3 Data Evaluation and Pre-Design Evaluation Report, which included Chapter 7 of Appendix Q, a summary of source control activities conducted in the "other" drainage basins to Thea Foss Waterway (Basins #207, #214, #218, #222, #223, #225, #243, and #248) was published. Also included in Appendix Q of the Final Round 3 submittal is Section III, Thea Foss Source Control Summary. Section III is a summary of information contained in Appendix Q, including completed stormwater actions and investigations, stormwater source control actions to be completed prior to sediment remediation, and source control actions exceeding the scope of current Public Works resources.

As explained in Section III, the City was in the process of generating reports on several investigations and source control actions which had just been completed. Therefore, a final addendum to Appendix Q was prepared, which includes updates on outstanding source control issues, and two reports related to source control investigations. This addendum was made available for comment by the PRP group. After addressing all comments received, the City submitted the final addendum to Appendix Q in February 2000.

Subsequent source control activities conducted in the Thea Foss Waterway Basin will be summarized in quarterly progress reports submitted to Ecology and EPA. In February 2000, the first such quarterly report was submitted covering the period from October 1, 1999 to December 31, 1999.

In 1999, source control efforts within the Thea Foss Waterway Sub-watershed focused on outstanding issues and concerns. A detailed list of these issues and concerns, shown in Appendix B, has been compiled by the Stormwater Source Control Workgroup, consisting of representatives from the City of Tacoma, the Department of Ecology (Ecology), and the Environmental Protection Agency (EPA) and most recently, Citizens for a Healthy Bay. The Workgroup meets approximately every 6 weeks to cooperatively discuss and provide status updates on each action item. Subsequently, the information contained in Appendix B is frequently revised and updated as needed.

Inspections

In 1999, 15 full inspections and 6 drive-by inspections were conducted at businesses within the Thea Foss sub-watershed. Most of the inspections were performed to evaluate compliance status at businesses where concerns were previously noted. Enforcement actions taken in 1999 include one Warning Letter and two Notice of Violations (NOV). Each NOV also included a monetary penalty.

Other investigations that took place in the Thea Foss sub-watershed are described in Section 7 - Identification of know water quality improvements or degradation.

Education

The City continues to provide residents and businesses with educational handouts and pamphlets pertaining to BMPs. Residential letters and pamphlets are routinely distributed in neighborhoods following complaint investigations. During inspections, businesses are provided both general and specific BMPs targeting applicable activities.

Commercial and industrial monitoring

In 1999, as part of the City's ongoing investigation to identify potential sources of contaminants of concern (COCs), specifically bis(2-ethylhexyl)phthalate (BEP), a number of sediment samples were obtained from catch basins at various businesses. Depending on the sample results, the City may require corrective actions be taken, such as implementation of specific BMPs, in order to eliminate or minimize the discharge of contaminants from private drainage systems. In addition, the City has compiled a map of sample locations and results which serves as a tool for identifying possible areas of concern within the watershed.

Other monitoring activities

In the Fall of 1999, in-line sediment traps were deployed as required in the Thea Foss Waterway Sampling and Analysis Plan (SAP). These locations included Outfall 230 (3 locations), Outfall 235, Outfall 237A (2 locations), Outfall 237B, Outfall 243, and a background (residential) location upstream in Basin #237A.

In addition, the City, in cooperation with EPA and Ecology, identified additional upstream sample locations for the purpose of source tracing for BEP. Five sediment traps were deployed on major trunk lines upstream in Basin #237A. Four sediment traps were deployed upstream in Basin #230. And two sediment traps were deployed upstream in Basin #235. Sediment traps (2) were also deployed just outside the MPS Terminal which drains both to Outfall 245 and Outfall 248. In January 2000, the samples were retrieved and sediment traps were re-deployed at all 22 stations. A final analysis report from the City Lab is currently in progress.

Spills

In April and May of 1999, a number of complaints were received regarding turbid water discharging at Outfall 237A. Inspectors had been unsuccessful in tracing the source upstream. Finally, in June 1999, the source was traced to a City-contracted construction project where de-watering was a frequent occurrence. Since this incident, the City has taken steps to address concerns related to construction de-watering and erosion control at construction sites.

On August 6, 1999, white paint discharging at Outfall #230 was traced to contractors working at St. Joseph Hospital, 1708 S. J Street. Several buckets of rinse water accidentally spilled on the roof and into a roof drain.

On September 3, 1999, a small spill of citrus-based cleaner was reported at Puget Sound InLine, 2322 S. Holgate Street.

On November 30, 1999, a spill of canola oil was reported at Nalley's Fine Foods, 3303 S. Lawrence Street. The spill occurred in a portion of the plant which drains to the South Tacoma Field.

2. Notification of any recent or proposed annexations or incorporations

No areas were annexed during the reporting period.

3. Differences between planned and actual expenses

Relating the planned expenditures in each of the above categories to the actual expenditures is still very difficult at this time. The City's budget and fiscal tracking systems are not structured to fit the NPDES needs. They were developed to comply with the State Auditor requirements and conform to the Government Accounting Procedures (GAP). Some activities are budgeted in one activity or organization but are actually spent and therefore charged to a different activity or organization. As a result, the actual expenditure in any one line item does not necessarily relate to the budget number for that same category. And finally, some capital expenditures may be budgeted in the operating budget but the expenditure is taken from the capital budget and vice versa. We are continuing to work with the budget and fiscal offices to see if modifications can be made to eliminate these anomalies. The City is investigating a new computerized tracking system for the entire City financial operations as well as other applications. This will include hiring a project manager and an outside consultant in 2000 for the purpose of selecting a vendor to supply the necessary hardware and software.

4. Revisions, if necessary, to the remaining years of the fiscal analysis reported in the approved stormwater management program

Revisions to the fiscal analysis section are not necessary.

5. For the fourth year report, a summary and analysis of the cumulative monitoring data collected throughout the term of the permit

The fourth year report was submitted in September 1999.

6. A summary describing compliance activities, including the nature and number of official enforcement actions, inspections and types of public education activities

The Building and Land Use Division of Public Works is responsible for the permitting of a wide variety of land use activities throughout the City. They issue residential and commercial building permits, clearing and grading permits, and permits for shorelines, wetlands and other critical areas. They also process all land use permit applications including short plats, formal plats and other activities. During 1999, the following enforcement actions were taken:

- Grading and filling permits - 41
- Erosion control inspections - 57
- BMP failure inspections - 5
- Tracking sediment off-site - 6
- Grading inspections - 95
- Shoreline investigations - 2

During 1999, seven calls were received from the public regarding water quantity and flooding concerns. Approximately 125 water quality complaint calls were received and were addressed. These calls related to a variety of concerns such as vehicle storage, working on vehicles, painting,

spills relating to vehicular accidents, business practices related to improper storage of chemicals, and vehicle and equipment washing.

Enforcement actions were taken in the Thea Foss Basin. One warning letter and two notices of violation were issued. The notices of violation had monetary penalties associated with them.

7. Identification of known water quality improvements or degradation

In 1999, the City completed an investigation in Basin #245 which identified a likely source of petroleum-based material which had been infiltrating into the storm drainage system and discharging to Thea Foss Waterway. This matter has been forwarded to Ecology with a recommendation for further action to confirm the City's findings and remove the source. In September 1999, the City eliminated this source of contamination to the waterway by repairing damaged sections of the storm system where material had been infiltrating.

In 1999, the City completed an investigation in Basin #235 which identified the source of consistent petroleum odors reported in the storm drainage system near the Washington State Historical Museum. Activities conducted during the investigation confirmed that groundwater contaminated with gasoline is infiltrating into the storm drainage system and discharging to Thea Foss Waterway. The City, Ecology, and Tacoma-Pierce County Health Department are currently working cooperatively to: 1) eliminate the pathway to the storm drains, 2) identify the source(s) of contamination, and 3) evaluate the need for remedial action. This work will eventually result in an improvement to water quality.

In March 1999, the City conducted an investigation to identify the source of fecal contamination detected in the storm drainage system within the Puget Creek drainage basin. Several samples were obtained from major trunk lines upstream in the basin to identify the area of concern. Additional samples were obtained to further isolate the source. Finally, smoke testing was performed which identified a household side sewer which was inadvertently connected to the storm drain. Soon afterwards, City crews re-routed the side sewer to the sanitary sewer. However, the major source of contamination was later identified when additional smoke testing was performed in the area. City crews found a sanitary sewer cross-connection to the storm drainage system. A plug which had been previously installed in a cross-connection pipe at a manhole had failed. City crews immediately corrected the problem.

The work of the City's Bay Patrol, described in the Monitoring Section, S7B4 resulted in the following improvements to water quality.

- A boat owner was found sanding his boat while moored at a marina, allowing the debris to fall into the water. He was immediately stopped and informed that activity could only take place at a dry dock. The marina owner was also informed and asked to watch out for this sort of activity.
- Muddy discharge from a stormwater pipe lead to the discovery of a water main break. Staff from Tacoma Water responded quickly to stop the flow in the main and to make repairs.

- A diesel fuel sheen was tracked to an area near several companies' operations. The companies were contacted and they searched for the source. No source was found, but a follow up inspection found the sheen was gone.
- A small diesel fuel sheen was tracked to a boat tied up at a marina. It had an internal diesel fuel leak which was being intermittently discharged into the water by an automatic bilge pump. The owner was contacted and he turned off the bilge pump and pumped the diesel fuel out of the boat for proper disposal.

A new Home Depot store is being constructed in the western part of the City. A wetland is located on the site. The wetland was degraded due to adjacent commercial and industrial activities. As part of the permitting process for the Home Depot, the wetland was cleaned up and the buffer was replanted. Now only clean roof water is discharged into the wetland and the Home Depot is responsible for monitoring the wetland on a regular basis.

8. Status of watershed-wide coordination and activities which the permittee has undertaken individually or jointly as part of the Special Condition S7B7.

Please refer back to S7B7 for information on watershed-wide coordination and activities

Appendix A

Urban Creek Assessment Quality Assurance Project Report March 2000

Please see the attached report.

Appendix B

Source Control Issues and Concerns within the Thea Foss Waterway Sub-Watershed

Tacoma Stormwater Worksheet (Flint & Naccarato rev. 2/2006)

Note 1: "CoT" generally means City stormwater utility, other City divisions are otherwise specified. Note 2: Naccarato temporary re-assignment postponed, staffing plan to accomplish tasks within specified time frames is not certain. Note 3: Although WDOE's Mercuri & Coleman are specifically named to complete tasks, other staff may be assigned. Note 4: All "six-weekly" meetings CoT, WDOE & EPA convene to cooperatively address outstanding issues. Note 5: Reference to a "3rd or 4th Rnd Sed Trap Report" is based on the 1st & 2nd round sed trap efforts led by Ecology. 3rd Rnd of sed trap sampling refers to the effort of Sept 99 to Feb 00 (as shown below). 4th Rnd sed traps were deployed Jan 00. Now that the City will take the lead in sediment trap sampling, results analogous to Ecology's presentation will be presented in the City's stormwater monitoring plan.

What	When	Who/Whom	Report Out	"Deliverable"
PAHs - installed traps above & below courthouse & schools in 1998 sediment trap study (HClO tube id identified, but not quantified). UST at county courthouse (Yakima and S 11th) closed in place, sw conn plugged... only seep still observed. Check w/TPCHD re monitored seeps from tanks. Note: Union St and museum gw sources discharge to SD-235 (only north end or parking lot at Federal court house discharges to 230. 1299: TV'd line on S 15th to Court A and Dock St line. Found broken pipe along RR tracks (at FD-3B), but no I/I problems.	1 May '99 (Ecot info/CoT) 1 June '99 (CoT/TPCHD) 1299 (TV) 100 (decide addn'l controls)	WDOE/Mercuri Whitton CoT/Naccarato w/TPCHD	City Rept	CoT/WDOE: quarterly rpt
Coil - issue is vehicle washing - corrections made. No further action. See Appendix Q (DxD report)	1 June '99	CoT/Naccarato	City Rept	
Greyhound Bldg (aka Budget Rental) - wash system conn. to sanitary as per Appendix Q (DxD report). No further action.	1 June '99	CoT/Naccarato	City Rept	
Manholes & baselines need further cleanup pending results of TV work & sed traps.	Feb 00	Utility/Owners	City Rept	
Auto detailing & tire-related operations possible sources ... 7 sed traps installed for source id sampling (8/99): FD3A (S15th betw Pacific & A Streets), FD3B (Hood St & Pacific Ave, S15th & Market, S13th & Market, Broadway betw S14th & S15th).	Sept '99 (traps in) (data back) 2000 (results to plan from)	CoT/Naccarato	City Rept 1/15/00	CoT: addendum DxD (sed trap status)
9EP: Colonial Friul - CoT checked for outfall (condensate?) as part of Bay Keeper survey for outfalls on 4/22 - no apparent outfall. Cross-checked water consumption - determined discharge to waterway is non-contact cooling water. Ecology will check NPDES permit status. CoT located 2" PVC discharge pipe under bldg - discharges directly to waterway.	1299 (WDOE for permit)	CoT/Naccarato WDOE/Mercuri	9/30 Rd. 3 (final)	CoT: addendum D... WDOE: memo
PAHs high in 4/98 sed traps (LPAH = 16,000 ug/kg, HPAH = 75,000 ug/kg), but lower in 2/99 traps (LPAH = 3,600 ug/kg, HPAH = 14,000 ug/kg) - from CB at end of pipe. 2/99 sed trap results: E 21st/Dock (dis Union Sta): 3,480 ug/kg LPAH, 13,360 ug/kg HPAH; E 21st/Jefferson (dis Union Sta): 1,360 ug/kg LPAH, 7,960 ug/kg HPAH.				
9EP: 4/98 sed trap: outfall at E 21st/Dock St = 96,000 ug/kg. 2/99 sed trap: E 21st/Dock (dis Union Sta): 20,000 ug/kg, E 21st/Jefferson (dis Union Sta): 42,000 ug/kg. No obvious sources on this line. 3 sed traps installed for source id sampling (8/99): S21st & S Jefferson, S Market & S Jefferson, and outfall				
Source tracing: 3 sed traps installed for source id sampling (8/99): S 21st & S Jefferson (dis Union Sta to west), S Market & S Jefferson (dis Union Sta to N), and S 21st & D St (outfall). Two lines to park have been TV'd. WSDOT-owned line running north of S 21st has had debris removed and now needs to be TV'd by City. Other TV need to find I/I around museum/courthouse. Investigation of gas stations by Ecology also needed re: glw contamination.	Feb 2000: Trap data in ??? Trap data report ??? TV lines ??? Gas stations	CoT/Naccarato; Ecology/Warren	DxD addendum/Quarterly? NPDES report	
WSDOT drain S of S 21st S/gasholder: System owned by WSDOT runs from S to N, drains part of I-705 and connects to City SD-235 system S of museum. City TV'd line and observed black tarry substance seeping into manhole and other parts of line. WSDOT maps show former gasholder at this manhole location. Manhole buried, no sample collected. WSDOT to raise manhole to grade (Coleman coord. w/ WSDOT); determine extent of I/I, collect sample; lines may need flagging.	??? raise MH ??? Collect sample	Ecology/Coleman coord w/ WSDOT CoT/Naccarato collect sample		
Gas I/I on WSDOT line N of S 21st: Short line from S 21st joins main E-W line on S 21st at Cl A. Main line installed by WSDOT for I-705 project is asphalt-lined CMP. Infiltration at manhole 447 contains gas (benzene at 240 ug/L; WTPH-G: 0.7 mg/L). PAH not detected at 1 ug/L. Ecology investigating historic gas stations as possible sources. Coord. with WSDOT to eliminate I/I (Ecology?). Continue to investigate I/I problems.	??? Investigate sources ??? TV line ??? Stop I/I	Ecology/Coleman/Warren CoT		
Gas I/I at museum CB: Gas in infiltration into cb behind museum (benzene: 29 ug/L, WTPH-G: 0.6 mg/L). PAH not detected at 1 ug/L. Line connects to WSDOT-owned line from I-705 N of S 21st/ 3 US1's removed 8/92. 10 monitoring wells installed-gas cont along S end of site extending N along E side of property. GW remediation planned, but postponed pending investigation of offsite sources. Ecology coord. w/ TPCHD to resume investigation/remediation. Coordinate with museum to eliminate I/I (Ecology?). Continue to investigate I/I (City?).	??? Investigate sources ??? TV line ??? Stop I/I	Ecology/Coleman/Warren CoT: TPCHD		
BNRR: At 4/19/99 low tide heard cascading water behind bank armor, possibly the old outfall from the roundhouse. Roundhouse all-water separator is by Berg Scaffold. CoT & WDOE found no connection to o/w separator. Oil/water separator filled w/ sand/coner (closed). At low tide CoT sampled & found low level TOC (near detection limits), sample was salt water.	1 May '99 (sample) 1 May/Jun '99 (data)	CoT/Naccarato WDOE/Coleman, Mercuri	9/30 Rd. 3 (final)	CoT: addendum DxD
9EP: BNRR yard: incidental releases from tank in area leased by Truck Rail Handling - need collected results of sampling for all media (soil, surf H2O, groundwater) and this single catch basin sample for BEP (in '99). Need to characterize what gets into drains - Sed trap installed at outfall 8/99. TPCHD site hazard assessment data forwarded to WDOE. CoT got 1 sample from cb sediments in area where transloading occurs. BEP was low (79-2,400 ug/kg in sediment from dis CB and 890-1,920 ug/kg (wet weight) in ground product material). Other phthalate found in product: Di-n: 3,650-6,600 ug/kg, but only 198 ug/kg in CB sediment. See note below at Truck Rail Handling item on 245 - property leased from BNRR drains to 243	1 June '99 (inspect site & sample cb) Sept/Oct (site hzd results)	CoT/Naccarato TPCHD/Nelson	9/30 Rd. 3 (final)	CoT: addendum DxD WDOE: memo
9EP: Picks Cove: 5/97 CB sample at south end of property draining to 243. 42,000 ug/kg BEP. Ecology to follow-up on whether other cb was cleaned or not. Picks washes boats in area behind building--does not drain to new sand filtration system to be built. Have Picks stop washing boats at this location.	?? (sand filtration working) ?? (WDOE on cleaned cb)	WDOE/Mercuri		WDOE: memo

"sw" - stormwater
"cb" - catch basins
"p" - "n" - as required

"u/g" - upstream
"d/a" - downstream

NOTE:

This is a working document used exclusively by the City of Tacoma, Ecology, and EPA, solely for the purpose of listing and tracking action items related to the Tice Pass Waterway Sources Control Program. The use of symbols (e.g., question marks) identify issues to be further discussed by the Workgroup.

Tacoma Stormwater Worksheets (Print & Naccarato rev. 12/00)

Note 1: "CoT" generally means City stormwater utility, other City divisions are otherwise specified. Note 2: Naccarato temporary re-assignment, postponed, staffing plan to accomplish tasks within specified time frames is not certain. Note 3: Although WDOE's Merout & Coleman are specifically named to complete tasks, other staff may be assigned. Note 4: At "Six weekly" meetings CoT, WDOE & EPA convene to cooperatively address outstanding issues. Note 5: Reference to a "3rd or 4th Rnd Sed Trap Report" is based on the 1st & 2nd round sed trap efforts led by Ecology. 3rd Rnd of sed trap sampling refers to the effort of Sept '99 to Feb '00 (as shown below). 4th Rnd sed traps were deployed Jan '00. Now that the City will take the lead in sediment trap sampling, results analogous to Ecology's presentation will be presented in the reports described in the City's stormwater monitoring plan.

What	When	Who/Whom	Report Out	"Deliverable"
PAH: Oil material - concern is in to stormline. TPCHD site has assess (10/97): 6 g/w and soil samples collected in ROW D SIVE 19th. TPH-D and heavy oil > MICA level A. 4/98 samples at sump: TPH-heavy oil = 72,000 mg/kg, individual PAH not tested. CoT will line existing drain along 19th (east of D St). Sump at 245 recontaminating - 18" solids' accumulation since cleaned 6 months ago. H2S added problem in this area (pipe damage). Tide gate at outfall not feasible, so installed on inlet pipe to sump; tidal influence remains. Tightening completed 10/99? will address it & recon of line, sumps, etc. Need to clean sump and relast. Problems with how to collect representative sample from 15-foot deep sump. Old fuel pipeline located, small section full of oil saturated solids was removed. Concerns remain about contaminated soil on outside of line coming thru bedding material line - will sample & clean out sump when solids have accumulated again.	11/99 (lighted) 11/99 (sample, clean sump) Sept 09 (sed traps in) 1/00 (data in) 2/00 (results to plan from)	CoT/Naccarato WDOE/Coleman	09/20 Rd. 3 (final) & QWY Rept	CoT: addendum DxD WDOE: memo
BEP at outfall: Data from DxD report ... sump samples 8,000 - 8,700 ug/kg BEP (1997-1998), 30,000 (4/98), cleaned in 10/98 and 5,070 (3/99). Need to keep track of future sampling results	This line only presents data, it is not an action line.			
Picks Cove: Picks installed closed loop boatwash 9/93. Ecology sampled cb sediments 11/95: Cu, Pb, Zn (2,300-71,000 mg/kg), TBT (275-1,263 mg/kg), phthalates not analyzed. 4/98: Picks cleaned CBs (not the S CB), but not clear if pipes cleaned as well. 5/97: City sampled cb sediments: LPAH (2,680-54,820 ug/kg), HPAH (5,740-58,650 ug/kg), BEP (15,000-170,000 ug/kg), Dimethyl phth (3,400-43,000 ug/kg), pentils (480-34,000 ug/kg), 10/97: TPCHD sampled soil and g/w at 4 locations: only 1 site contained elevated metals and CPAH in soil, some PAH detected in g/w. 2 other sites PAH and phthalates detected in g/w. 4/98: Ecology installed sed trap in D St cb: TBT (43 mg/kg), LPAH (6,064 ug/kg), BEP (17,200 ug/kg), HPAH (14,600 ug/kg), 1/99: Picks cleaned CBs and lines. 8/99: Picks sampled main sump: Cu (5,700 mg/kg), TBT (520), LPAH (8,970 ug/kg), HPAH (24,260 ug/kg), BEP (71,800 ug/kg), pentils (NA), 1/00: Picks agrees to regrade site and install sand filtration system to treat stormwater.	7/77 Storm treatment in place	WDOE/Merout		
BEP: MPS/Truck Rail - update report/memo re cleaning, containment improvements. No similarities apparent from cb to cb from 4/98 data, so hard to separate possible effects from MPS, Truck Rail and Arrow. Check possibility for it, new purchaser is having assessment done and may address it. New owner also planning to test to sw cross-connections. WDOE sent stormwater permit writer to check SOPs on property leased from BHRR - no update yet. CBs cleaned late March '99 - need results updated. Requested chronology of sampling & cleaning events to date. They are no longer transloading BEP. 8/99 sed traps installed at E 18th/MPS on 248 and between E 18th/E 19th on 245. CoT plans to clean public stormwater lines d/s of MPS after MPS pressure washes its system. 12/99 sale finalized. New owner to clean CBs. Ecology to request dye test for illicit connections.	2/00: (resample & results) 2/00: (sed trap data)	WDOE/Merout (update) CoT/Naccarato	Only Rept	WDOE: memo addendum DxD CoT
BEP: Premier Plastics - Revisited for housekeeping practices and area around rails. 5/98 CB samples contained 9,400 - 27,000 ug/kg BEP. CoT recommended more frequent sweeping plus CB inserts. Need follow-up inspection for cleaning & resampling. 12/99: PP has relocated. CoT found drain in basement-low priority.	12/99 (inspection & resample)	CoT/WDOE	09/20 Rd. 3 (final) & QWY Rept	CoT: addendum DxD
Sed trap results: 1997: 5,600 - 7,800 ug/kg BEP; 5,600 - 6,500 ug/kg LPAH; 39,000 - 46,000 ug/kg HPAH; 1998: 20,000 ug/kg BEP; 7,000 ug/kg LPAH; 34,000 ug/kg HPAH. 8 sed traps installed 8/99 for source tracing: FD2 (manhole on East B below S23rd & S24th), FD2A (S23rd & East B), FD5 (Cedar & S 19th), S, 35th & Hood St., S, Pine & Hood St., S, Hosmer & Center St., S, Wilkeson & Center St., South Tacoma Way & J St.	This line only presents data, it is not an action line.			
BEP: Tacoma Plastics: In old Tacoma Power bldg. Did inspection, but no sampling. All work inside, injection molding for toys & parts, no storage, no transloading. Everything indoors or current operations -- need to revisit cellar & old conduits for historical sources. M. Coleman may have additional related info from previous work in area.	1/00 (talk to Coleman)	CoT/Naccarato	Only Rept	CoT: addendum (update status)
Phthalates: KeitTech & Masco catch basins: 7/98 CB samples (2,400 - 5,100 ug/kg BEP). Cleaned all cbs in 12/97, BEP in traps was lower in 2nd rnd. Based on dye tests, KeitTech line wraps around Masco - before cleanout saw no difference in phthalates between public and private catch basins. Butyl benzyl phthalate (1,100 - 1,400 ug/kg) higher here than elsewhere on 237. Need to establish cleaning schedule under private maintenance ordinance & followup to ensure it is kept. Cullings/shavings escape thru curtain to outside - followup with request to insert filter. At Masco washwater goes to grass (infiltrate to gw) - but may overflow to storm in winter. Need to followup with TPCHD. Did visit & operator was sweeping.	7/77 (check seasonal BMPs) 7/77 (set schedule w/owner for cleaning?) 1/00: CoT site visit (housekeeping)	CoT/Naccarato TPCHD/new contact?	Only Rept	CoT: addendum to DxD (update status)
Phthalates: Plasti-Pac: Need to figure out sw plumbing - during past remodel outside cb wound up beneath a loading dock. One other (?) was not functioning when site was dye tested - option to empty & fill if not connected to anything else. Update: Bldg vacant, moved to 2322 S. Holgate (formerly Max Durlon Enterprises). Site has been flagged in CoT systems for "no occupation" pending cleaning and replumbing or closing of connection to stormwater. [At new location, Plasti-Pac had reported a spill-5-10 gal Delammon (orange-extract) degreaser. Did not reach SD]. Still in 237A basin. CoT to flag site for new occupant.	action pending reoccupation of site 1/00: CoT verify site still vacant	CoT/Naccarato	Only Rept	CoT: addendum to DxD

"sw" - stormwater

"cb" - catch basins

"p.r.n." - as required

"LPAH" - polycyclic aromatic hydrocarbons

"HPAH" - high polycyclic aromatic hydrocarbons

02/15/2000 2:18 AM

Printed by: [redacted]

1 acoma stormwater worksheet (Print & Naccarato rev. 4/2000)

Note 1: "CoT" generally means City stormwater utility, other City divisions are otherwise specified. **Note 2:** Naccarato temporary re-assignment postponed, staffing plan to accomplish tasks within specified time frames is not certain. **Note 3:** Although WDOE's Marucci & Coleman are specifically named to complete tasks, other staff may be assigned. **Note 4:** All "six-weekly" meetings CoT, WDOE & EPA convene to cooperatively address outstanding issues. **Note 5:** Reference to a "3rd or 4th Rnd Sed Trap Report" is based on the 1st & 2nd round sed trap efforts led by Ecology. **3rd Rnd of sed trap sampling refers to the effort of Sept '99 to Feb '00 (as shown below). 4th Rnd sed traps were deployed Jan '00. Now that the City will take the lead in sediment trap sampling, results analogous to Ecology's presentation will be presented in the City's stormwater monitoring plan**

Drain	What	When	Who/When	Report Out	"Deliverable"
237A	Phthalates: Ultra-Poly: Even tho no source is evident on-site, phthalates are continuing problem (1,400 - 340,000 ug/kg BEP in 5/86; CBs cleaned 12/86, 1997-1998 CB samples: 5,500 - 76,000 ug/kg BEP). BMR next door has evidence of high phthalates -- migration? U-P is a confirmed source & would appear to need more than repeated catch basin cleaning (e.g., pressure wash lines, reclean cbs) and re-analysis. Current storage of finished product is all outside - Could not analyze raw power-- would not dissolve in solvent. Current operator cognizant of BMPs & is practicing. FS Harmon Mfg Co owns and maintains bus. office on site - possible historical contamination. Next action - have lines & cb cleaned - resample. CoT inspect to check BMPs.	1/00 reinspect	CoT/Naccarato	Qtrly Rept	CoT: addendum to DxD
237A	NW Elch next door to Ultra Poly-- us on drain: All incoming/outgoing flows are accounted for - now part of pre-treatment program.	no further action	CoT/Naccarato		CoT: addendum to DxD
237A	PAHs: DA-1: draft FS for interim action is targeted for 7/3/99. Traps installed 10/98 - 2/99: MH 080 u/s of WDOY (16,000 ug/kg BEP, 4.710 ug/kg LPAH, 13,580 ug/kg HPAH) MH 081 d/s of WDOY (7,700 ug/kg BEP, 3,980 ug/kg LPAH, 4,240 ug/kg HPAH). Removing portions of old line, adding sewerage collars to prevent movement along outside of old lines, slight re-grade of area & paving. Check status (Coleman).	?? (public notice for MTCA action) ?? (action complete)	WDOE/Coleman		
237A	PAHs: A&B Rent-a-Car: Nearest cb is away from site so it is unlikely that wastewater is reaching sw line. Deal used parts. Generally low performance housekeeping & BMPs. Increase presence & inspections w/sampling to monitor/increase compliance (possible cmt to business licensing?). Updates pending for DxD.	Summer '99	CoT/Naccarato	9/20 Rd. 3 (final)	CoT: addendum to DxD
237A	PAHs: Active Gear: New tenant at former site of Ben's Truck Parts. Found as result of complaint. Need to check cmt on washpad (to sewer or sw?) and add to CoT list as location for routine cb cleaning. Active Gear has been very responsive to CoT on source control - cbs were full when AG came on site (AG cleaned). Re-visit shows they now store truck gear boxes outside - contact storm water/fuels concern.	12/99 (revisit)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	PAHs: Brake Shop: Tenant at Ben's Truck Parts site. Generally a mess behind doors, increase presence & inspections	Summer '99	CoT/Naccarato		CoT: addendum to DxD
237A	Alles Foundry: WDOE found on compliance thru NPDES. Semi-VOA not tested under permit WDOE has requested MSIS as check for presence of phthalates in products used. CoT requests BEP monitoring as NPDES requirement. 12/99?: Atlas to install onsite infiltration system. CoT sampled 4 onsite and 2 offsite Cbs.	?? (CoT letter to WDOE) ?? (review existing data) ?? (sample if needed) ?? (respond to CoT request)	WDOE/Marucci & NPOES permit section	08/24/1999	Full '99, CoT letter to WDOE
237A	Auto Tech Collision Center: No CB on-site. Cars rinsed with water only after being painted. Explained in Appendix Q (DxD report).	Complete	CoT/Naccarato	DxD	
237A	Auto Body ReBuild PPG: No wash pad exists. CB located near wash area. As noted in Appendix Q (DxD Report), newly painted vehicles now washed with water only... Candidate for sampling.	Sept '99 (traps in) 1/99 (data back) 2/00 (results to plan from)	CoT/Naccarato	DxD	
237A	Baby Diaper Service: CBs were cleaned when drains were snicled. CBs sampled by CoT. Updates pending for DxD.	Summer '99	CoT/Naccarato	9/20 Rd. 3 (final)	CoT: addendum to DxD
237A	CJ Auto: 9/97 CBs plumbed to oil-water sep at Walls Radiator. Now out of business. Walls Radiator (owner & neighboring tenant) look over vacant space. No further action required.	Summer '99	CoT/Naccarato	9/20 Rd. 3 (final)	CoT: addendum to DxD
237A	Jack-in-the-Box: High staff turnover does not generally ensure SOPs & BMPs will be applied. Fined for continuing to wash parking lot with degreasers. 38K ppb of BEP in CB, possibly from soaps. Add to plans for more presence/visibility. Data coming in next quarterly report.	Summer '99	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	Auto Detailing & fire-related operations possible sources - Sed traps installed at 8 key locations B&B for source tracing (see first entry under 237A). Need to update info for DxD.	Sept '99 (traps in) 1/99 (data back) 2/00 (results to plan from)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	BEP: Evergreen Tire @ 98,000 ug/kg (BEP) in cb (HPAH > 75,000 ug/kg) not cleaned. BEP & PAHs in '98 samples were even higher. As noted in Appendix Q (DxD rep.), pad connected to sanitary sewer installed as required. Added maintenance schedule. Friesone - needs added to maintenance schedule.	Summer '99	CoT/Naccarato	DxD	
237A	T&T Tire & Automotive Center: HPAH (115,300 ug/kg), LPAH (21,100 ug/kg) and BEP (67,000 ug/kg) in catch basins. Increased enforcement required. Wash pad to be installed. Verify wash water from floor cleaning no longer goes to stormdrain	?? (clean, resample) ?? (wash pad) 1/00? (verify cmt)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	BEP: JR Rodding Furniture: A small-scale operation uses soap for vehicle washing - gravel area is hard to sample. No further action as per Appendix Q (DxD Report)	Summer '99	CoT/Naccarato	DxD	
237A	Lincoln Plaza Shopping Center: Legal matters pending regarding trash compactor discharge. Updates pending for DxD.	1/00 (strategy for discharged drainage from trash bins)	CoT/Naccarato/Telebo	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)

"sw" - stormwater
 "cb" - catch basins
 "p.c.m." - as required

"u/s" - upstream
 "d/s" - downstream

Tacoma Stormwater Worksheet (Flint & Naccarato rev. 2/2000)

Note 1: "CoT" generally means City stormwater utility, other City divisions are otherwise specified. **Note 2:** Naccarato temporary re-assignment postponed, staffing plan to accomplish tasks within specified time frames is not certain. **Note 3:** Although WDOE's Mercut & Coleman are specifically named to complete tasks, other staff may be assigned. **Note 4:** All "six weekly" meetings CoT, WDOE & EPA convene to cooperatively address outstanding issues. **Note 5:** Reference to a "3rd or 4th Rnd Sed Trap Report" is based on the 1st & 2nd round sed trap efforts led by Ecology. 3rd Rnd of sed trap sampling refers to the effort of Sept '99 to Feb '00 (as shown below). 4th Rnd sed traps were deployed Jan '00. Now that the City will take the lead in sediment trap sampling, results analogous to Ecology's presentation will be presented in the reports described in the City's stormwater monitoring plan.

What	When	Who/Whom	Report Out	"Deliverable"
PAIs: Yellow Csb (Rmr Rainer Radiator): no sw conveyance - runs thru gutters to grass & greenery - doesn't reach the road. Need for further action currently being assessed. Updates pending for DxD.	no further action	CoT/Naccarato/Coleman	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
Nalley: Washpad has overflowed to storm. Soap is used - likely source of DEP. Sewer Operations followed-up for pre-treatment compliance. No semi-VOA analyzed for permit. Pickle brine runs to cb, especially during periods of high production. Nalley does have schedule for replacing old wood tanks, anticipated completion in 2007. Meanwhile, berms need repair. Need a scheme for sampling the site from sw perspective - then plan to establish control/compliance. Re SOP's and BMP's need management buy-in to ensure practices are sound. Need to update DxD. Also, see Appendix Q (DxD report). Mercut to check permit status. CoT tested pickle brine for semi-VOA.	77 (WDOE/EPA strategy for sw sampling) 77 (repair berms) 77 (site sw control schedule) 2000: brine test results	WDOE/Mercut CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	WDOE: Memo or other documentation for CoT CoT: DxD addendum (update status)
Olympic Brake Supply: Vehicle washing discontinued following 3697 inspection. CB were cleaned - need to follow-up on BMP implementation. Candidate for CB sampling.	Sept '99 (traps in) 1/99 (data back) 2000 (results to plan from)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
Osborn McCann Cadillac: 1298 CB samples: 3,000 ug/kg LPAH, 12,830 ug/kg HPAH, 7,400 ug/kg DEP. Wash pad confirmed connected to sanitary sewer. Anti-freeze relocated away from pad drain. Follow-up needed concerning outside washing of cars.	1298 (followup)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
Oxygen Sales & Service: Cylinder hydro-testing water has been re-routed to sanitary. No further action required.	Complete	CoT/Naccarato	DxD	
Peerless Laundry: CB cleaned 5/87 & were high DEP (30K ppm) beforehand. Resample cb and get operator on schedule for cb maintenance	1299 (cb resample) 77 (schedule for cb maint.)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
Pugel Sound Energy: Confirmed that oil/water separator at wash/vinyl area is plumbed to sanitary. Verify whether or not cb's have all been cleaned & when - resample. CoT reported that CBs have been cleaned (1/99). Pressure washing for fleet vehicles should be done only where flow goes to oil/water separator. Follow-up inspection confirmed flow. Need to sample cleaned cb.	1299 (cb resample)	CoT/Naccarato	Qtrly Rept	
Sant's Auto Repair: Follow up to confirm waste oil & anti-freeze are no longer problems (See Appendix Q)	Complete	CoT/Naccarato	DxD	
Star Ice & Fuel: There is cb adjacent to above-ground waste oil tank. Waste oil tank has been relocated. (See Appendix Q) No further action required.	Complete	CoT/Naccarato	DxD	
T&H Auto Repair: Based on low performance housekeeping & BMPs - add to schedule for routine inspections.	1299 (inspection)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
Tacoma Recycling: 2997 CB samples: 21,000 ug/kg DEP, 22,000 ug/kg 4-methylphenol, 5,000 ug/kg BBP. Follow up to confirm final twice-yearly cb cleaning actually occurs.	1299 (followup)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
Tacoma News Trib: 2897: CBs near fuel island plumbed to SD, washed to SS. 4897 CBs cleaned. Determine if they need to re-plumb fuel island CBs to SS and sample CBs.	1299 (replumb decision) 2000: (work complete)	CoT/Naccarato	Qtrly Rept	CoT: addendum to DxD
Tam Engineering/old location: Visit current occupant (used by construction company for equipment/truck staging area). Inspect & evaluate for possible source control	1299 (reinspect)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
Western Furnace: At 1297 inspection cbs were full of solids - verify they were cleaned. In 658 Western Furnace closed. Re-opened in Summer '99 as Parker Paint retail outlet. Need to revisit to verify status of source control.	1299 (revisit)	CoT/Naccarato	09/20 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
Outfall sed trap samples: 1997 (7,400 ug/kg LPAH; 57,000 ug/kg HPAH; 24,000 ug/kg DEP) and 1998 (5,800 ug/kg LPAH; 35,000 ug/kg HPAH; 27,000 ug/kg DEP). Only 1 possible BEP source identified in drain report. Other possible sources for source tracing efforts include fire washing car lots (Armour Aut), detailing operations, machine shops (cutting fluids with filings discharged to dumpsters to drains). Sed trap installed at outlet 0/99. Evaluate for possible source tracing in 2000.	July '99 (inspections & trap) Sept '99 (traps in) 1/99 (data back) 2000 (results to plan from)	CoT/Naccarato	Qtrly Rept	CoT: addendum to DxD (update status)

"sw" - stormwater
"cb" - catch basins
"p.c.n." - as required

"u/s" - upstream
"d/s" - downstream

02/15/2000 2:01 AM
Printed new to this file (1/15/00) xht

Note 1: "Co" generally means City stormwater utility, other City divisions are otherwise specified. **Note 2:** Naccarato temporary re-assignment postponed, staffing plan to accomplish tasks within specified time frames is not certain. **Note 3:** Although WDOE's Mercuri & Coleman are specifically named to complete tasks, other staff may be assigned. **Note 4:** All "six-weekly" meetings CoT, WDOE & EPA convene to cooperatively address outstanding issues. **Note 5:** Reference to a "3rd or 4th Rnd Sed Trap Report" is based on the 1st & 2nd round sed trap efforts led by Ecology. 3rd Rnd of sed trap sampling refers to the effort of Sept/99 to Feb/00 (as shown below). 4th Rnd sed traps were deployed Jan/00. Now that the City will take the lead in sediment trap sampling, results analogous to Ecology's presentation will be presented in the report's stormwater monitoring plan.

"SW" - stormwater
 "CB" - catch basins
 "P.C.U." - as required

"1/6" - 11/2/65, 11/2/65

1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765

Note 1: "CoT" generally means City stormwater utility, other City divisions are otherwise specified. Note 2: Naccarato temporary re-assignment postponed, staffing plan to accomplish tasks within specified time frames is not certain. Note 3: Although WDOE's Mercut & Coleman are specifically named to complete tasks, other staff may be assigned. Note 4: All "six-weekly" meetings CoT, WDOE & EPA convene to cooperatively address outstanding issues. Note 5: Reference to a "3rd or 4th Rnd Sed Trap Report" is based on the 1st & 2nd round sed trap efforts led by Ecology. 3rd Rnd of sed trap sampling refers to the effort of Sept'99 to Feb'00 (as shown below). 4th Rnd sed traps were deployed Jan'00. Now that the City will take the lead in sediment trap sampling, results analogous to Ecology's presentation will be presented in the City's stormwater monitoring plan.

What	When	Who/Whom	Report Out	"Deliverable"
Private maintenance ordinance - decant stations for removed solids & water - none available for private (only City-owned & operated for CoT-generated wastes) - Need to establish whether wastes typically designate (lids) or not, set up stations. Now using Hidden Valley for solids - decant is likely returning to sewer (septic dumps) or stormwater.	future	WDOE/Mercut CoT/Tullison, Henley	5/11: draft lists 6/23: compile lists for authors	
Private maintenance ordinance - mapping will be needed		CoT/CS/and		
Structural BMPs: need to keep track of who has what treatment - retro-fitting & new construction. Private BMPs currently tracked by database (whokind).		CoT/Haccarato		CoT: addendum to SOD
Fast & Convenience Food Vendors: Policies often mandate the parking lots; floor mats be washed daily with degreasers. Send letter. Check when last contacts were made, followup with SOPs for housekeeping and need to minimize degreasers.	12/99 (last contacts) (letter SOPs, etc)	CoT or WDOE?	Only Repl	

"sw" - stormwater
"cb" - catch basins
"p.r.n" - as required

"uds" - upstream
"lids" - downstream

